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## **Bibliometric Analysis of Published Literature In Journal of Medical Sciences Peshawar-Pakistan**

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**BIBLIOMETRIC ANALYSIS OF PUBLISHED LITERATURE IN JOURNAL OF  
MEDICAL SCIENCES PESHAWAR  
PAKISTAN**

**ABSTRACT**

**Objective:** To carry out the bibliometric analysis of Journal of Medical Sciences Peshawar from 2014 to 2018.

**Methods:** This study was an attempt to analyze the scholarly documents published in Journal of Medical Sciences. All the original articles, reviews and case reports published from 2014 to 2018 were scrutinized. Website and hard copies of the Journal were used as data collection sources.

**Results:** A total of 322 scholarly documents were studied. It was observed that male contribution is more prominent than female. The year 2017 was reported as the more productive. The contribution from Khyber Pakhtunkhwa was on the top followed by Islamabad and Punjab. Journals were declared as the more cited source followed by books. Medicine, Gynecology and Surgery were reported as the more addressed subjects.

**Conclusion:** Journal of Medical Science Peshawar is a peer reviewed, open access, indexed quarterly Journal that publishes quality research in the field of health sciences. Local contributors are regularly publishing their research in this leading journal of medical sciences. Citation of quality, local and relevant literature will improve the standard of this Higher Education Commission (HEC) and Pakistan Medical and Dental Surgeon (PM& DC) recognized Journal.

**Keywords:** Bibliometric- Journal of Medical Science, Journal of Medical Science-Peshawar, Bibliometric analysis-Peshawar, Bibliometric-Medical Science, Bibliometric – Health Sciences-Pakistan

## **INTRODUCTION:**

The Research publication are the exemplifications of the scholarly idea substance communicated in distributed writing whose key goal is to transmit inventive thoughts or data to a particular field of information, towards the further improvement of a subject.<sup>1</sup>

Bibliometric research is defined by the OECD Glossary of Statistical Terms as:

*"The statistical analysis of books, articles, or other publications... to measure the "output" of individuals/research teams, institutions, and countries, to identify national and international networks, and to map the development of new (multi-disciplinary) fields of science and technology."*

Journals are important channels for dissemination of research outputs, besides being indispensable for academics and practitioners. They also reflect authors' productivity, extent of authors' collaboration, authors' institutional affiliation, authors' geographic affiliation, type of publication, language of papers, number of citations used per article, length of papers, and year-wise distribution of papers.<sup>2</sup>The Oxford English dictionary defines bibliometrics as the branch of library science concerned with the application of mathematical and statistical analysis to bibliography; the statistical analysis of books, articles, or other publications.

## **REVIEW OF RELATED LITERATURE**

A writing audit is the substance of an examination paper which consolidates the present information discoveries, hypothetical and methodological commitments to a particular point.

Saeed Ullah, et al. (2016) Conduct a bibliometric Analysis of the Journal of College of Physicians and Surgeons Pakistan from 2010 to 2014 and found that absolute research records were 1106 in which 721 were unique articles while the remaining were case reports. Male donors were prevailing and the commitment of creators from Baluchistan and Khyber Pakhtunkhwa were not exactly other two Provinces. The Subjects Anatomy, Pharmacology, Nephrology and nervous system science were given less consideration.<sup>3</sup>

Saeed Ullah, et al. (2017) led a factual examination of the Pakistan Journal of Surgery from 2007 to 2016 and inferred that out of 597 articles dominant part of the writers were from Karachi. The male writers were 1769 and four-writer articles were 1606.<sup>4</sup>

Shah (2016) examinations 81 articles of the International Journal of Agriculture Science distributed from 2009 to 2014. The discoveries demonstrate that a large portion of the articles

distributed were cooperation examine. A large portion of the creators referred to diary references. 1-6 pages articles were high in number and 53.08% donors were from India.<sup>5</sup>

Ibrahim and Saeed Ullah Jan (2015) examined 913 unique articles distributed in the Journal of Pakistan Medical Association and presumed that number of article has expanded in the year 2009 to 2013. Three composed articles were 206(22.6%). 481 creators contributed from Sindh territory. Aga Khan University Karachi was the most profitable institute.<sup>6</sup>

Chakravarty, et al. (2014) considered New England Journal of Medicine from 2006-2010. Absolute 2740 articles were investigated and found that in 27 issues of volume 361 of the year 2009 the level of the quantity of articles was more in volume 355 out of 2006.<sup>7</sup>

## **OBJECTIVES OF THE STUDY**

- To find out the year, gender wise and geographical distribution of articles
- To probe the authorship patterns
- To assess the average length of papers in terms of pages
- To analyze the subject coverage of articles
- To investigate citation patterns

## **METHODOLOGY**

To look at the qualities and patterns of the articles published in the Journal of Medical Science Peshawar, the authors concentrated on the assessment of original articles, review articles and case reports published from 2014 to 2018. Every one of the issues of the Journal was accessible in diary segment of the library of Postgraduate Medical Institute Hayatabad, Peshawar. To decide the author's institutional and geographic association, addresses noticed in the exploration papers were considered. Four territories like Punjab, Sindh, Khyber Pakhtunkhwa, Baluchistan and the capital Islamabad was considered for topographical dissemination of creators. All foreign authors were placed in international category of authorship in the geographical distribution. For accomplishing the target of this scrutiny, gathered information was examined by utilizing Statistical Package for Social Sciences (SPSS) and Excel spread sheets of MS office.

## RESULTS

A total of 322 articles (Original Articles and Case Reports) were published in JMS within 5 years (2014-2018). The items that were not selected included: editorials, letters to editors, and general section publications. Quantitative growth of articles by volume and year (Table-I) summarizes the total number of articles (322) published across 5 years (2014-2018) of the study. The number of articles published varied each year. The distribution of articles by year shows that in 2017 highest number of articles 76 were published with 23.60% followed by 2018 with 73 (22.67%) articles. The highest numbers of articles published during the period under study were 76 and the lowest numbers of articles were 49. Table II reveals the authorship pattern of the journal articles. Four-author contributions amounted to 98 (30.43%) articles and ranked the highest of all the categories. More than five-author contributions amounted to 85 (26.40%) and five-author contributions amounted to 78 (24.22%), attaining second and third ranking, respectively. Articles written by more than single-authors marked the lowest with a total of the only one (.31%) articles. The male authors were almost four-time greater than female authors. Regarding geographical affiliation of authors, major contribution was of KP 1288 (90.96%) followed by Islamabad 47 (3.32%), Punjab 45 (3.18%) and International 29 (02.05%) (Table-IV). In terms of length, 146 (45.35%) articles were four-pages in length followed by 78 (24.22%) of five-pages and 53(16.46%) of three-pages (Table-V). Articles of more than five-pages were 39 (12.11%) and two-pages 06 (1.86%). Authors who preferred journals for citation were numbered 6601(92.00%) followed by those who cited books 204 (2.80%) and WHO 200 (2.79%) (Table-VI). Table VIII shows articles with 12-30 references were 148(49.49%), 11-20 references 112 (37.46%) and 31-40 reference 24(8.03%). Articles containing 01-10 references were 08 (2.68%) and over 40 references 7(2.34%). The subject of *Medicine* is given more projection followed by *Gynecology* and *Surgery* as per analysis of Table IX.

**Table I: Year-wise Distribution of Articles From 2014-2018**

S No.	Year & Volume	Issue	Issue	Issue 3	Issue 4	Total & %
<b>01</b>	2014 Volume 22	13	12	11	13	49(15.22%)
<b>02</b>	2015 Volume 23	12	15	15	21	63(19.57%)
<b>03</b>	2106 Volume 24	11	13	17	20	61(18.94%)
<b>04</b>	2017 Volume 25	21	18	20	17	76(23.60%)
<b>05</b>	2018 Volume 26	18	21	17	17	73(22.67%)
<b>Total Publications</b>		75	79	80	88	322(100%)

**Table II Authorship Contributions**

	Single	Double	Three	Four	Five	Five <sup>+</sup>	Grand
<b>Year &amp; Volume</b>	Author	Authors	Authors	Authors	Authors	Auth	Total
<b>2018 Volume 26</b>	00	04	15	19	16	19	73
<b>2017 Volume 25</b>	00	01	02	34	26	13	76
<b>2016 Volume 24</b>	01	06	10	13	09	22	61
<b>2015 Volume 23</b>	00	01	09	17	15	21	63
<b>2014 Volume 22</b>	00	01	11	15	12	10	49
<b>Total</b>	1	13	47	98	78	85	322
<b>%age</b>	.31%	4.04%	14.60%	30.43%	24.22%	26.40%	100%

**Table III Gender wise Distributions**

<b>Gender</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total &amp; %</b>
<b>Male</b>	46	48	39	71	54	258(77.01%)
<b>Female</b>	13	07	12	27	18	77(22.99%)
<b>Total</b>	59	55	51	98	72	335(100%)

**Table IV Geographical Affiliation**

<b>Name</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>	<b>%Age</b>
<b>Islamabad</b>	06	01	05	15	20	47	3.32
<b>KPK</b>	215	293	264	284	232	1288	90.96
<b>Punjab</b>	00	00	01	19	25	45	3.18
<b>Sindh</b>	00	00	00	01	06	7	.49
<b>Baluchistan</b>	00	00	00	00	00	0	00
<b>International</b>	00	12	04	07	06	29	2.05
<b>Total</b>	221	306	274	326	289	1416	100%

**Table VI Length of Article**

	Single	Double	Three	Four	Five	Five <sup>+</sup>	Grand
<b>Year &amp; Volume</b>	Page	Pages	Pages	Pages	Pages	Pages	Total
<b>2018 Volume 26</b>	00	01	08	30	22	12	73
<b>2017 Volume 25</b>	00	01	02	34	26	13	76
<b>2016 Volume 24</b>	00	02	08	28	14	09	61
<b>2015 Volume 23</b>	00	00	16	35	09	03	63
<b>2014 Volume 22</b>	00	02	19	19	07	02	49
<b>Total</b>	00	6	53	146	78	39	322
<b>%age</b>	00	1.86%	16.46%	45.35%	24.22%	12.11%	100%

**Table VII Citation Pattern**

<b>Subjects</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>	<b>%Age</b>
<b>Journals</b>	910	1201	1215	1808	1467	6601	92.00
<b>Book</b>	43	38	30	61	32	204	2.84
<b>URLs</b>	18	16	43	38	35	150	2.09
<b>WHO Pub</b>	60	22	65	08	45	200	2.79
<b>Others</b>	00	04	04	09	03	20	.28
<b>Total</b>	1031	1281	1357	1924	1582	7175	100%

**Table VIII References per Article**

<b>Subjects</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>	<b>%Age</b>
<b>01-10</b>	03	02	02	01	00	08	2.68
<b>11-20</b>	23	31	24	13	21	112	37.46
<b>21-30</b>	19	23	27	41	38	148	49.49
<b>31-40</b>	03	02	04	08	07	24	8.03
<b>40+</b>	01	03	01	02	00	07	2.34
<b>Total</b>	49	61	58	65	66	299	100%

## **DISCUSSIONS**

One of the prominent investigations assessed the Journal of Ayub Medical College from 1997 to 2006, reporting that the volume and number of articles in the JAMC had expanded. Original articles are the principle sort of papers for this Journal, and papers by writers from Pakistan make up the biggest proportion.<sup>8</sup> Another important study was conducted to assess the journal of College of Physician and Surgeon Pakistan from 2010 to 2014, highlighting that the quantity of articles in the JCPSP has been enhanced with the passage of time. Female contribution was less when contrasted with male. The region of Punjab was a long ways ahead while contributing in this esteemed Journal. The pattern of joint initiation was at high level. It was observed that journals were the more referred source by researchers.<sup>3</sup> Another study was carried out to rate Pakistani medical journals. It uncovered that the JPMA stayed on the best in every one of the three rankings, while the Journal of College of Physicians and Surgeons-Pakistan achieved second position in the positioning dependent on the all-out number of citations.<sup>9</sup> One examination assessed the essentialness of Rawal Medical Journal and showed that there were 437 references in 32 inquire about articles in the two issues of Volume 31 from January to December 2006. Larger part of contribution were from Pakistani authors. More research exercises and better writing inquiry are required to improve journal quality.<sup>10</sup>



**Table IX: Content wise analysis**

Subjects	Vol. 22 2014	Vol. 23 2015	Vol. 24 2016	Vol. 25 2017	Vol. 26 2018	Total	%age
Anatomy	00	01	02	01	01	5	1.55%
Anesthesia	00	01	02	00	00	3	0.93%
Biochemistry	00	03	03	05	00	11	3.42%
Cardiology	02	02	00	00	02	6	1.86%
Dentistry	01	00	03	01	01	06	1.86%
Dermatology	00	00	00	00	01	01	0.32%
Gastroenterology	00	00	00	01	00	01	0.32%
Gynecology	14	08	04	14	05	45	13.98%
Medicine	10	10	14	19	21	74	22.98%
Microbiology	00	02	01	01	00	4	1.24%
Nephrology	00	00	01	01	01	03	0.93%
Neurosurgery	00	02	00	02	02	06	1.86%
Oncology	00	00	00	01	00	01	0.32%
Ophthalmology	02	00	00	00	00	02	0.62%
Orthopedics	00	04	02	03	02	11	3.42%
Otolaryngology	03	00	05	01	03	12	3.73%
Pathology	03	03	03	09	06	24	7.45%
Hematology	00	00	01	00	01	02	0.62%
Pediatrics	04	01	03	03	14	25	7.76%
Pharmacology	02	01	00	00	03	6	1.86%
Physiology	0	03	02	01	00	06	1.86%
Physiotherapy	00	00	00	01	01	02	0.62%
Plastic Surgery	01	00	01	00	02	04	1.24%
Psychiatry	00	01	02	01	01	05	1.55%
Radiology	00	01	00	02	01	04	1.24%
Surgery	06	13	09	11	09	48	14.91%
Urology	01	01	01	01	01	05	1.55%
Total	49	57	59	79	78	322	100%

## CONCLUSION

Being an official Journal of Khyber Medical College Peshawar, Journal of Medical Sciences has been contributing to the field of medical sciences in a very impressive and effective way. This quarterly Journal has added a reasonable amount of scientific literature to the world of knowledge. The bibliometric scrutiny of this HEC and PM&DC recognized journal is an effort to explore the weak areas and suggest ways to improve the quality of the Journal. The analysis of the Journal reports that four-authored articles are more in number as compare to other contributors. Female authors need to be encouraged for writing in JMS. The subjects of Oncology, Physiotherapy, Hematology, Dermatology and Ophthalmology are not properly

focused in this Journal. These subjects should be given due attention in forth coming issues of this esteemed Journal. The normal length of articles are 4-5 pages, which is acceptable. Citation analysis is also a very important aspect of this statistical scrutiny. Journals and books are reported as the more citing documents. Stress should be given to latest local literature. For further improvement in ranking, more stress should be given to the indexing with HEC recognized databases.

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